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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,834	01/30/2006	Hisashi Narimatsu	159-89	5006
23117	7590	11/17/2006	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			RAGHU, GANAPATHIRAM	
			ART UNIT	PAPER NUMBER
			1652	

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/539,834	Applicant(s) NARIMATSU ET AL.	
	Examiner Ganapathirama Raghu	Art Unit 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 and 17-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/17 & 10/11/06</u> | 6) <input checked="" type="checkbox"/> Other: <u>SEQ ALIGN</u> |

DETAILED ACTION

Claims 1-23 are pending in this application and claims 13-16 are now under consideration for examination. Claims 1-12 and 17-23 are withdrawn as they are drawn to non-elected inventions.

Election/Restrictions

Applicants' election with traverse of Group IV, claims 13-16 and SEQ ID NO: 2 for prosecution in their response dated 30 Aug. 2006 is acknowledged. The traversal is on the grounds there would not be serious burden on the examiner to examine groups I through V and restriction between groups be withdrawn and applicants' have requested for examination of all the claims and furthermore polypeptide sequences of SEQ ID NO: 2, SEQ ID NO: 16 and SEQ ID NO: 17 are related in structure and function. Applicants' arguments have been considered, examiner agrees with the arguments regarding the structure and function relationship of SEQ ID NOs.: 2, 16 and 17, however, respectfully disagrees with the argument that searching all claims is "not a serious burden" for the following reasons. Searching structurally distinct molecules like the polypeptides of groups IV, V (antibody group) and the polynucleotides of group I are not coextensive and involves search of different databases and non-patent literature, as prior to the concomitant isolation and expression of the sequence of interest there may be scientific journal articles devoted solely to the polypeptides which would not have described the polynucleotide and moreover the polypeptides may have been isolated by biochemical means and antibodies against said polypeptides may be derived by different methods, therefore searching for the polypeptide may not necessarily describe or yield search results/articles and publications

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concerned with the generation of antibodies. Similarly, searching the polypeptides and the method of use of the polypeptides are not coextensive. Groups IV polypeptides encompasses molecules which are structurally distinct and claimed in terms of variants with a wide ranging percentage sequence identity and amino acid changes to SEQ ID NO: 2, SEQ ID NO: 16, or SEQ ID NO: 17, that involves search of sequence databases and analysis of results, whereas method of use of polypeptides as in groups II-III would involve text search and moreover said process or method of use can be carried out by polypeptides that are similar only in activity but from different source and posses different structural features. Therefore, for the above-cited reasons searching of all claims is a serious search burden and contrary to applicants' argument, the requirement is still deemed proper and is therefore made FINAL.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). This application is a 371 PCT/JP03/17030 filed on 12/26/2003 and claims the priority date of Japanese application 2002-38075 filed on 12/27/2002. However, Examiner notes that the English translation for the Japanese application 2002-38075 is not provided.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 06/17 2005 and 10/11/2005 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

The drawings are considered for examination purposes only.

Claim Rejections 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13-16 are rejected under 35 U.S.C. 101 because the claims could read on a non-statutory subject matter. The claims are drawn to an 'A β 1,3-N-acetyl-D-glucosaminyltransferase', which could read on product of nature. Claims directed to such matter are considered non-statutory. Examiner suggests amending the claims to recite 'An isolated β 1,3-N-acetyl-D-glucosaminyltransferase'' to show the hand of man.

Claim Rejections: 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 16 recites the phrase "...40% identity to SEQ ID NO: 2, SEQ ID NO: 16, or SEQ ID NO: 17, the metes and bounds of the phrase is not clear and the examiner suggests changing the phrase to "...40% sequence identity to SEQ ID NO: 2, SEQ ID NO: 16, or SEQ ID NO: 17. Correction is required.

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 13-16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 13-16 are directed to an isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or inserted and having said specific activity and biochemical characteristics. Claims 13-16 are rejected under this section 35 U.S.C. 112, because the claims are directed to a genus of polypeptides with no support in the specification for the structural details associated with the function i.e., an isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics. No description of identifying characteristics of all of the sequences of an isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or inserted and having said specific activity and biochemical characteristics has been provided by the applicants in the specification.

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No information, beyond the characterization of the β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 has been provided by the applicants, which would indicate that they had possession of the claimed genus of the polypeptides i.e., an isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or inserted and having said specific activity and biochemical characteristics. Therefore, one skilled in the art cannot reasonably conclude that applicant had possession of the claimed invention at the time the instant application was filed. Applicant is referred to the revised guidelines concerning compliance with the written description requirement of U.S.C. 112, first paragraph, published in the Official Gazette and also available at www.uspto.gov.

Claims 13-16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17, does not reasonably provide enablement for any isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or

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inserted and having said specific activity and biochemical characteristics. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and or use the invention commensurate in scope with the claims.

Factors to be considered in determining whether undue experimentation is required are summarized in *In re Wands* (858 F.2d 731, 8 USPQ 2d 1400 (Fed. Cir. 1988)) as follows: (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claim(s).

Claims 13-16 are so broad as to encompass for any isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or inserted and having said specific activity and biochemical characteristics. The scope of the claims are not commensurate with the enablement provided by the disclosure with regard to the extremely large number of polypeptides and encoding polynucleotides broadly encompassed by the claims. Since the amino acid sequence of a protein encoded by a polynucleotide determines its structural and functional properties, predictability of which changes can be tolerated in a protein's amino acid sequence and obtain the desired activity requires knowledge and guidance with regard to which amino acids in the protein's sequence and the respective codons in its polynucleotide, if any, are tolerant of modification and which are conserved (i.e. expectedly intolerant to modification), and detailed

knowledge of the ways in which the encoded proteins' structure relates to its function. However, in this case the disclosure is limited to an isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17, but provides no guidance with regard to the making of variants and mutants or with regard to other uses. In view of the great breadth of the claims, amount of experimentation required to make the claimed polypeptides and encoding polynucleotides, the lack of guidance, working examples, and unpredictability of the art in predicting function from a polypeptide primary structure (e.g., see Ngo et al. in *The Protein Folding Problem and Tertiary Structure Prediction*, 1994, Merz et al. (ed.), Birkhauser, Boston, MA, pp. 433 and 492-495), the claimed invention would require undue experimentation. As such, the specification fails to teach one of ordinary skill how to use the full scope of the polypeptides encompassed by this claim.

While enzyme isolation techniques, recombinant and mutagenesis techniques are known, and it is not routine in the art to screen for multiple substitutions or multiple modifications as encompassed by the instant claim, the specific amino acid positions within a protein's sequence where amino acid modifications can be made with a reasonable expectation of success in obtaining the desired activity/utility are limited in any protein and the result of such modifications is unpredictable. In addition, one skilled in the art would expect any tolerance to modification for a given protein to diminish with each further and additional modification, e.g. multiple substitutions or deletions.

The specification does not support the broad scope of the claims which encompass all modifications to any isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having

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specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or inserted and having said specific activity and biochemical characteristics, because the specification does not establish: (A) regions of the protein/polynucleotide structure which may be modified without affecting the activity of encoded β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics; (B) the general tolerance of the polypeptide and the polynucleotide encoding β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics to modification and extent of such tolerance; (C) a rational and predictable scheme for modifying any amino acid residue or the respective codon in the polynucleotide with an expectation of obtaining the desired biological function; and (D) the specification provides insufficient guidance as to which of the essentially infinite possible choices is likely to be successful.

Thus, applicants have not provided sufficient guidance to enable one of ordinary skill in the art to make and use the claimed invention in a manner reasonably correlated with the scope of the claim broadly including polynucleotides with an enormous number of modifications. The scope of the claim must bear a reasonable correlation with the scope of enablement (*In re Fisher*, 166 USPQ 19 24 (CCPA 1970)). Without sufficient guidance, determination of any isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or inserted and having

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said specific activity and biochemical/biological characteristics is unpredictable and the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue. See *In re Wands* 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir, 1988).

Claim Rejections 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Conklin et al., (US Patent No.: 6,416,988, publication date July 02, 2002). Claims 13-16 are directed to any isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or inserted and having said specific activity and biochemical characteristics. Conklin et al., (*supra*) teach the isolation of a polypeptide annotated as β 1,3-N-acetyl-D-glucosaminyltransferase (SEQ ID NO: 2) that has 99.8% homology to SEQ ID NO: 2 and SEQ ID NO: 16 and 99.7% homology to SEQ ID NO: 17 of the instant application (see sequence alignment provided). The reference also teaches encoding polynucleotides, vectors, host cells and method of making the polypeptide. Therefore, Conklin et al., anticipate claims 13-16 as written.

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Claims 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Daffo et al., (WO 02/079449, publication date 10/11/2002 also claiming the priority of US Provisional Application No.: 60/279,619 filed on 03/28/2001). Claims 13-16 are directed to any isolated β 1,3-N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or inserted and having said specific activity and biochemical characteristics. Daffo et al., (*supra*) teach the isolation of a polypeptide annotated as β 1,3-N-acetyl-D-glucosaminyltransferase (SEQ ID NO: 568) that has 100% homology to SEQ ID NO: 17 of the instant application (see sequence alignment provided). The reference also teaches encoding polynucleotides, vectors, host cells and method of making the polypeptide. Therefore, Daffo et al., anticipate claims 13-16 as written.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 13-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Gendreau et al., (WO 2004/066948 A2, publication date 08/12/2004, claiming priority of US Provisional Application No.: 60/443,484 filed on 01/29/03). Claims 13-16 are directed to any isolated β 1,3-

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N-acetyl-D-glucosaminyltransferase polypeptide having specific activity and biochemical characteristics and comprising an amino acid sequence having 40%-99% sequence identity to the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 16 or SEQ ID NO: 17 or variants of said sequences in which one or several amino acids are substituted, deleted or inserted and having said specific activity and biochemical characteristics. Gendreau et al., (*supra*) teach the isolation of a polypeptide annotated as β 1,3-N-acetyl-D-glucosaminyltransferase (SEQ ID NO: 27) that has 100% homology to SEQ ID NO: 17 of the instant application (see sequence alignment provided). The reference also teaches encoding polynucleotides, vectors, host cells and method of making the polypeptide. Therefore, Gendreau et al., anticipate claims 13-16 as written.

This rejection is made on the basis that no English translation for the Japanese application 2002-38075 has been provided and for examination purposes the priority date granted to the instant application is the priority date of 371 PCT/JP03/17030 filed on 12/26/2003.

Conclusion

None of the claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ganapathirama Raghu whose telephone number is 571-272-4533. The examiner can normally be reached on 8 am - 4.30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of the application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see

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<http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ganapathirama Raghu, Ph.D.

Patent Examiner

Art Unit 1652

Oct. 15, 2006.


REBECCA E. PROUTY
PRIMARY EXAMINER
GROUP 1800
160

Matches 397; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

CC adenomatous polyposis coli protein (APC) and axin pathways modulating CC agents. The method comprises providing an assay system comprising a CC modifier of APC and axin (MAPCA) polypeptide or nucleic acid, contacting the assay system with a test agent under conditions where, except for the CC presence of the test agent, the system provides a reference activity, and detecting a test agent-biased activity of the assay system, where a difference between the test agent-biased activity and the reference activity identifies the test agent as a candidate APC and axin pathways modulating agent. The method is useful in identifying a candidate adenomatous polyposis coli protein (APC) and a pathways modulating agent, which are useful for preparing a composition for diagnosing or treating cancer. The present sequence represents a human orthologue of a Caenorhabditis elegans MAPCA polypeptide. The sequence was identified using BLAST analysis.

Query Match 100.0%; Score 2135; DB 8; Length 397; Best Local Similarity 100.0%; Pred. No. 1.4e-182; Matches 397; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Sequence 397 AA;

1 MRCPCCLICLSALITLIGKVIEMTSESLSKAYSPRGTPSPTPANPEPTLPANLST 60
1 MRCPCCLICLSALITLIGKVIEMTSESLSKAYSPRGTPSPTPANPEPTLPANLST 60
61 RLCQITPPEFAVWNOOQWRGLSPSGDSTETGCGAMGAAATEIPDFASYPDRLRFL 120
61 RLCQITPPEFAVWNOOQWRGLSPSGDSTETGCGAMGAAATEIPDFASYPDRLRFL 120
121 SAACRSFQWLPFGGGGQVSSCSDTDVPIYLLAVKSEPERFAERQAVRETWSPAGIRL 180
121 SAACRSFQWLPFGGGGQVSSCSDTDVPIYLLAVKSEPERFAERQAVRETWSPAGIRL 180
181 LFLGSPVGEAGPDIDSLVAMESRRYSDDLMDPFDVFNQTLKDLLLAWLGRHCPTVS 240
181 LFLGSPVGEAGPDIDSLVAMESRRYSDDLMDPFDVFNQTLKDLLLAWLGRHCPTVS 240
241 FVLRADDDAFVHTPALHLRALPPASASLYLGEVFTQAMPLRKGPFYVESFEEG 300
241 FVLRADDDAFVHTPALHLRALPPASASLYLGEVFTQAMPLRKGPFYVESFEEG 300
301 YPAVASGGGVYAGRLAPMLRAAARVAPFPEDVYTGICIRALGLVPOAHGFTLWMPA 360
301 YPAVASGGGVYAGRLAPMLRAAARVAPFPEDVYTGICIRALGLVPOAHGFTLWMPA 360
361 DRTADHCAFRNLILVRLPGQASIRLWKOLQDPRLOC 397
361 DRTADHCAFRNLILVRLPGQASIRLWKOLQDPRLOC 397

RESULT 2
ADRL4769
ADRL4769 standard; protein; 397 AA.

ADRL4769;
04-NOV-2004 (first entry)
Amino acid sequence of human MAPCA orthologue #1.
adenomatous polyposis coli protein; APC; axin pathway;
modifier of APC and axin; MAPCA; cancer; human.
Homo sapiens.
WO200406948-A2.
12-AUG-2004.
28-JAN-2004; 2004WO-US002338.
29-JAN-2003; 2003US-044384P.
11-FEB-2003; 2003US-044738P.
10-APR-2003; 2003US-0461789P.
14-MAY-2003; 2003US-0470684P.
19-JUN-2003; 2003US-0479650P.
(EXEL-) EXELIXIS INC.
Gendreau SB, Morabianco EL, Lickteig K, Zhang H;
WPI: 2004-580849/56.
N-PSDB; ADRL4743.
Identifying a candidate adenomatous polyposis coli protein (APC) and axin pathways modulating agent for treating cancer by contacting an assay system comprising a modifier of APC and axin polypeptide or nucleic acid with a test agent.
Example 1; SEQ ID NO 27, 1999P; English.
The specification describes a method for identifying a candidate

CC adenomatous polyposis coli protein (APC) and axin pathways modulating CC agents. The method comprises providing an assay system comprising a CC modifier of APC and axin (MAPCA) polypeptide or nucleic acid, contacting the assay system with a test agent under conditions where, except for the CC presence of the test agent, the system provides a reference activity, and detecting a test agent-biased activity of the assay system, where a difference between the test agent-biased activity and the reference activity identifies the test agent as a candidate APC and axin pathways modulating agent. The method is useful in identifying a candidate adenomatous polyposis coli protein (APC) and a pathways modulating agent, which are useful for preparing a composition for diagnosing or treating cancer. The present sequence represents a human orthologue of a Caenorhabditis elegans MAPCA polypeptide. The sequence was identified using BLAST analysis.

Query Match 100.0%; Score 2135; DB 8; Length 397; Best Local Similarity 100.0%; Pred. No. 1.4e-182; Matches 397; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Sequence 397 AA;

1 MRCPCCLICLSALITLIGKVIEMTSESLSKAYSPRGTPSPTPANPEPTLPANLST 60
1 MRCPCCLICLSALITLIGKVIEMTSESLSKAYSPRGTPSPTPANPEPTLPANLST 60
61 RLCQITPPEFAVWNOOQWRGLSPSGDSTETGCGAMGAAATEIPDFASYPDRLRFL 120
61 RLCQITPPEFAVWNOOQWRGLSPSGDSTETGCGAMGAAATEIPDFASYPDRLRFL 120
121 SAACRSFQWLPFGGGGQVSSCSDTDVPIYLLAVKSEPERFAERQAVRETWSPAGIRL 180
121 SAACRSFQWLPFGGGGQVSSCSDTDVPIYLLAVKSEPERFAERQAVRETWSPAGIRL 180
181 LFLGSPVGEAGPDIDSLVAMESRRYSDDLMDPFDVFNQTLKDLLLAWLGRHCPTVS 240
181 LFLGSPVGEAGPDIDSLVAMESRRYSDDLMDPFDVFNQTLKDLLLAWLGRHCPTVS 240
241 FVLRADDDAFVHTPALHLRALPPASASLYLGEVFTQAMPLRKGPFYVESFEEG 300
241 FVLRADDDAFVHTPALHLRALPPASASLYLGEVFTQAMPLRKGPFYVESFEEG 300
301 YPAVASGGGVYAGRLAPMLRAAARVAPFPEDVYTGICIRALGLVPOAHGFTLWMPA 360
301 YPAVASGGGVYAGRLAPMLRAAARVAPFPEDVYTGICIRALGLVPOAHGFTLWMPA 360
361 DRTADHCAFRNLILVRLPGQASIRLWKOLQDPRLOC 397
361 DRTADHCAFRNLILVRLPGQASIRLWKOLQDPRLOC 397

RESULT 3
ADRL2349
ADRL2349 standard; protein; 397 AA.

ADRL2349;
27-JAN-2003 (first entry)
Novel human polypeptide seqid 816.
cytostatic; antiproliferative; antiinflammatory; gene therapy; Nanodisc;
proliferative disorder; inflammatory disorder; immune disorder;
metabolic disorder; bone disorder; CNS disorder; cancer; psoriasis;
ulcerative colitis; human.
Homo sapiens.
WO2004093804-A2.
04-NOV-2004.
19-APR-2004; 2004WO-US012047.

QY 1 TSERSLSKAVPSRGRGPPSPPTPANPEPTLPANISTRIGQTIPLPFAVMNQOQRSLSPS 60
 DB 1 TSERSLSKAVPSRGRGPPSPPTPANPEPTLPANISTRIGQTIPLPFAVMNQOQRSLSPS 60
 QY 61 GDSLETGGCCAMGAAATEIPDFASYPKDIRFLLSAACSFPQWLPGGGSGOVSSCSDT 120
 DB 61 GDSLETGGCCAMGAAATEIPDFASYPKDIRFLLSAACSFPQWLPGGGSGOVSSCSDT 120
 QY 121 DVEYLLAAVSEGRFAEQAVRETWGSPAPGIRLLFLGSPVGEAGPDDLSLVAMESRR 180
 DB 121 DVEYLLAAVSEGRFAEQAVRETWGSPAPGIRLLFLGSPVGEAGPDDLSLVAMESRR 180
 QY 181 YSDLLMDFLDVFPNQTLDKDLLLAAWIGRHCPTVSVFLRAQDDAFVHTPALLAHLRALPP 240
 DB 181 YSDLLMDFLDVFPNQTLDKDLLLAAWIGRHCPTVSVFLRAQDDAFVHTPALLAHLRALPP 240
 QY 241 ASARSLYLGEVFTQAMPRLRRGSPFYVPSFPEGYPAYASGGGYVIAGRLAPWLLRAAA 300
 DB 241 ASARSLYLGEVFTQAMPRLRRGSPFYVPSFPEGYPAYASGGGYVIAGRLAPWLLRAAA 300
 QY 301 RVAPFPEDVYTGICIRALGLVPOAHGFLTAMPADRTADHCAFRNLLVRLPGQASIR 360
 DB 301 RVAPFPEDVYTGICIRALGLVPOAHGFLTAMPADRTADHCAFRNLLVRLPGQASIR 360
 QY 361 LMKQLODPRLQC 372
 DB 361 LMKQLODPRLQC 372

RESULT 2
 ADQ75983 standard; protein; 397 AA.
 ID ADQ75983
 AC ADQ75983;
 XX
 DT 07-OCT-2004 (first entry)
 XX
 DE Human glycosyl transferase protein.
 XX
 KM enzyme; human; cancer; glycosyl transferase.
 XX
 OS Homo sapiens.
 XX
 PN WO2004061109-A1.
 XX
 PD 22-JUL-2004.
 XX
 PF 26-DEC-2003; 2003MO-JP017030.
 XX
 PR 27-DEC-2002; 2002JP-00380975.
 XX
 PA (NAAD-) NAT INST ADVANCED IND SCI & TECHNOLOGY.
 XX
 PI (FJRE) FUJIREBIO INC.
 XX
 PT Narimatsu H, Kudo T, Togayachi A, Hiruma T;
 XX
 DR WPI; 2004-534383/51.
 XX
 DR N-PSDB; ADQ75982.
 XX
 PT Novel glycosyltransferase nucleic acid, useful for detecting colon
 cancer, stomach cancer and rectal cancer.
 XX
 PS Claim 16; SEQ ID NO 2; 80pp; Japanese.
 XX
 CC The present invention provides the protein and coding sequence of a human
 CC glycosyltransferase. The coding sequence is useful for testing for
 CC cancer, detecting the effectiveness of treatment to cancer, and for
 CC diagnosing cancer such as stomach cancer, pancreatic cancer, liver
 CC cancer, colon cancer and rectal cancer. The present sequence is the human
 CC glycosyl transferase protein of the invention.
 XX
 Sequence 397 AA;

Query Match 100.0%; Score 1999; DB 8; Length 397;
 Local Similarity 100.0%; Pred. No. 2.4e-173;
 Matches 372; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TSERSLSKAVPSRGRGPPSPPTPANPEPTLPANISTRIGQTIPLPFAVMNQOQRSLSPS 60
 DB 1 TSERSLSKAVPSRGRGPPSPPTPANPEPTLPANISTRIGQTIPLPFAVMNQOQRSLSPS 60
 QY 26 TSERSLSKAVPSRGRGPPSPPTPANPEPTLPANISTRIGQTIPLPFAVMNQOQRSLSPS 85
 DB 26 TSERSLSKAVPSRGRGPPSPPTPANPEPTLPANISTRIGQTIPLPFAVMNQOQRSLSPS 85
 QY 61 GDSLETGGCCAMGAAATEIPDFASYPKDIRFLLSAACSFPQWLPGGGSGOVSSCSDT 120
 DB 61 GDSLETGGCCAMGAAATEIPDFASYPKDIRFLLSAACSFPQWLPGGGSGOVSSCSDT 145
 QY 86 GDSLETGGCCAMGAAATEIPDFASYPKDIRFLLSAACSFPQWLPGGGSGOVSSCSDT 145
 DB 86 GDSLETGGCCAMGAAATEIPDFASYPKDIRFLLSAACSFPQWLPGGGSGOVSSCSDT 145
 QY 121 DVEYLLAAVSEGRFAEQAVRETWGSPAPGIRLLFLGSPVGEAGPDDLSLVAMESRR 180
 DB 121 DVEYLLAAVSEGRFAEQAVRETWGSPAPGIRLLFLGSPVGEAGPDDLSLVAMESRR 205
 QY 146 DVEYLLAAVSEGRFAEQAVRETWGSPAPGIRLLFLGSPVGEAGPDDLSLVAMESRR 205
 DB 146 DVEYLLAAVSEGRFAEQAVRETWGSPAPGIRLLFLGSPVGEAGPDDLSLVAMESRR 205
 QY 181 YSDLLMDFLDVFPNQTLDKDLLLAAWIGRHCPTVSVFLRAQDDAFVHTPALLAHLRALPP 240
 DB 181 YSDLLMDFLDVFPNQTLDKDLLLAAWIGRHCPTVSVFLRAQDDAFVHTPALLAHLRALPP 265
 QY 206 YSDLLMDFLDVFPNQTLDKDLLLAAWIGRHCPTVSVFLRAQDDAFVHTPALLAHLRALPP 265
 DB 206 YSDLLMDFLDVFPNQTLDKDLLLAAWIGRHCPTVSVFLRAQDDAFVHTPALLAHLRALPP 265
 QY 241 ASARSLYLGEVFTQAMPRLRRGSPFYVPSFPEGYPAYASGGGYVIAGRLAPWLLRAAA 300
 DB 241 ASARSLYLGEVFTQAMPRLRRGSPFYVPSFPEGYPAYASGGGYVIAGRLAPWLLRAAA 325
 QY 266 ASARSLYLGEVFTQAMPRLRRGSPFYVPSFPEGYPAYASGGGYVIAGRLAPWLLRAAA 325
 DB 266 ASARSLYLGEVFTQAMPRLRRGSPFYVPSFPEGYPAYASGGGYVIAGRLAPWLLRAAA 325
 QY 301 RVAPFPEDVYTGICIRALGLVPOAHGFLTAMPADRTADHCAFRNLLVRLPGQASIR 360
 DB 301 RVAPFPEDVYTGICIRALGLVPOAHGFLTAMPADRTADHCAFRNLLVRLPGQASIR 360
 QY 326 RVAPFPEDVYTGICIRALGLVPOAHGFLTAMPADRTADHCAFRNLLVRLPGQASIR 385
 DB 326 RVAPFPEDVYTGICIRALGLVPOAHGFLTAMPADRTADHCAFRNLLVRLPGQASIR 385
 QY 361 LMKQLODPRLQC 372
 DB 361 LMKQLODPRLQC 397

RESULT 3
 ADRL4769
 ID ADRL4769 standard; protein; 397 AA.
 XX
 AC ADRL4769;
 XX
 DT 04-NOV-2004 (first entry)
 XX
 DE Amino acid sequence of human MAPCA orthologue #1.
 XX
 KM adenomatous polyposis coli protein; APC; axin pathway;
 XX
 KM modifier of APC and axin; MAPCA; cancer; human.
 XX
 OS Homo sapiens.
 XX
 PN WO2004066948-A2.
 XX
 PD 12-AUG-2004.
 XX
 PF 28-JAN-2004; 2004MO-US002338.
 XX
 PR 29-JAN-2003; 2003US-0443484P.
 XX
 PR 11-FEB-2003; 2003US-0447358P.
 XX
 PR 10-APR-2003; 2003US-0461789P.
 XX
 PR 14-MAY-2003; 2003US-0470684P.
 XX
 PR 19-JUN-2003; 2003US-0479650P.
 XX
 PA (EXEL-) EXELIXIS INC.
 XX
 PI Gendreau SB, Morabianco EL, Lickteig K, Zhang H;
 XX
 DR WPI; 2004-580849/56.
 XX
 DR N-PSDB; ADRL4743.
 XX
 PT Identifying a candidate adenomatous polyposis coli protein (APC) and axin
 PT pathways modulating agent for treating cancer by contacting an assay
 PT system comprising a modifier of APC and axin polypeptide or nucleic acid
 PT with a test agent.
 XX

PS Example 1; SEQ ID NO 27; 199pp; English.
CC The specification describes a method for identifying a candidate
CC adenomatous polyposis coli protein (APC) and axin pathways modulating
CC agents. The method comprises providing an assay system comprising a
CC modifier of APC and axin (MAPKX) polypeptide or nucleic acid, contacting
CC the assay system with a test agent under conditions where, except for the
CC presence of the test agent, the system provides a reference activity, and
CC detecting a test agent-biased activity of the assay system, where a
CC difference between the test agent-biased activity and the reference
CC activity identifies the test agent as a candidate APC and axin pathways
CC modulating agent. The method is useful in identifying a candidate
CC adenomatous polyposis coli protein (APC) and a pathways modulating agent,
CC which are useful for preparing a composition for diagnosing or treating
CC cancer. The present sequence represents a composition for diagnosing or treating
CC *Caenorhabditis elegans* MAPKX polypeptide. The sequence was identified
CC using BLAST analysis.
XX

SO Sequence 397 AA;
XX
Query Match 100.0%; Score 1999; DB 8; Length 397;
Best Local Similarity 100.0%; Pred. No. 2, 4e-173;
Matches 372; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TSSRLSKAVSPRGTPSPPTANPEPTLPANISTRIGOTIPLPFAVMNOQWRIGSLPS 60
DB 26 TSSRLSKAVSPRGTPSPPTANPEPTLPANISTRIGOTIPLPFAVMNOQWRIGSLPS 85
QY 61 GDSRTGGCGAAGAAATETPDEASYPKDIRRFLLSAAGCSFPQWLPGGGSGOVSSGSDT 120
DB 86 GDSRTGGCGAAGAAATETPDEASYPKDIRRFLLSAAGCSFPQWLPGGGSGOVSSGSDT 145
QY 121 DVPEYLLAVKSEGRFAERQAVETWGSPPAPGRILFLIGSPVGEAGPDDISLVAMESR 180
DB 146 DVPEYLLAVKSEGRFAERQAVETWGSPPAPGRILFLIGSPVGEAGPDDISLVAMESR 205
QY 181 YSDLLIMDLVPPNCTLKOLLILAVLGRHCPVTSFVLAQODAFVHTPALLAHLRALPP 240
DB 206 YSDLLIMDLVPPNCTLKOLLILAVLGRHCPVTSFVLAQODAFVHTPALLAHLRALPP 265
QY 241 ASARSLYGEVFTQAMPLKPGCFPVPSFPGGYPANASGGGYIAGRLAPWILIRAAA 300
DB 266 ASARSLYGEVFTQAMPLKPGCFPVPSFPGGYPANASGGGYIAGRLAPWILIRAAA 325
QY 301 RVAPPFEDVYTGTCIRALGLVPOAHGFLTAMPADRTDHCAPRNLILVRPLGQASIR 360
DB 326 RVAPPFEDVYTGTCIRALGLVPOAHGFLTAMPADRTDHCAPRNLILVRPLGQASIR 385
QY 361 LMKQLQDRPLQC 372
DB 386 LMKQLQDRPLQC 397

RESULT 4
ADN02349
ID ADN02349 standard; protein; 397 AA.
XX
AC ADN02349;
XX
DB 27-JAN-2005 (first entry)
XX
DB Novel human polypeptide seqid 816.
XX
XX cytostatic; antiproliferative; antiinflammatory; gene therapy; Nanodisc;
XX proliferative disorder; inflammatory disorder; immune disorder;
XX metabolic disorder; bone disorder; CNS disorder; cancer; psoriasis;
XX ulcerative colitis; human.
XX
XX Homo sapiens.
XX
XX WO2004093804-A2.
XX
XX 04-NOV-2004.
PD

XX
PR 19-APR-2004; 2004WO-US012047.
XX
PR 18-APR-2003; 2003US-0463708P.
XX
PR 18-APR-2003; 2003US-0463722P.
XX
PR 02-MAY-2003; 2003US-0467199P.
XX
PR 02-MAY-2003; 2003US-0467230P.
XX
PR 19-MAY-2003; 2003US-0471306P.
XX
PR 08-JUL-2003; 2003US-0485223P.
XX
PR 08-JUL-2003; 2003US-0485224P.
XX
PR 14-JUL-2003; 2003US-0486446P.
XX
PR 08-AUG-2003; 2003US-0486480P.
XX
PR 08-AUG-2003; 2003US-0493573P.
XX
PR 08-SEP-2003; 2003US-0493577P.
XX
PR 08-SEP-2003; 2003US-0505059P.
XX
XX (FIVE-) FIVE PRIME THERAPEUTICS INC.
XX
XX Lee E, Hestir K, Chu K, Masuoka L, Williams LT;
XX
XX WPI; 2004-775861/76.
XX
XX N-PSDB; ADU01617.
XX
XX
XX New first nucleic acid molecule comprising a polynucleotide sequence
XX given in the specification, useful in preparing a composition for
XX diagnosing or treating e.g., cancer, psoriasis or ulcerative colitis.
XX
XX
XX Claim 14; SEQ ID NO 816; 891pp; English.

XX
XX The invention describes a new first nucleic acid molecule comprising a
XX polynucleotide sequence given in the specification. Also described are:
XX an animal injected with the nucleic acid molecule; a second nucleic acid
XX molecule comprising a second polynucleotide sequence that is at least
XX about 70, 80, 90 or 95% homologous to the first nucleic acid molecule or
XX string hybridizes to the first polynucleotide sequence under high
XX stringency conditions; a vector comprising the nucleic acid molecule and
XX a promoter that drives the expression of the nucleic acid molecule; a
XX host cell transfected, transduced, or infected with the
XX nucleic acid molecule; a nucleic acid composition comprising a carrier or
XX a buffer and one or more compositions comprising the nucleic acid
XX molecule, vector or host cell, a substantially purified polypeptide; an
XX animal injected with the polypeptide; a polypeptide composition
XX comprising the polypeptide molecule and a carrier or buffer; a cell
XX culture medium comprising the polypeptide and a transfected cell
XX transduced, or infected host cell; making a transfected cell
XX and for synthesizing a series of simultaneously-synthesized Nanodiscs
XX sequentially utilizing a dynamic system; preparing a hydrophobic protein
XX for determination of crystal structure; immunizing a non-human animal;
XX screening for modulators of hydrophobic protein activity; a diagnostic
XX kit; determining the presence of the nucleic acid molecule or its
XX complement; determining the presence of an antibody to the polypeptide in
XX a sample; an antibody specifically recognizing, binding to or modulating
XX the biological activity of at least one polypeptide encoded by a nucleic
XX acid molecule or its biologically active fragment; an antibody
XX composition comprising the antibody and a carrier; a bacteriophage, where
XX the antibody is displayed on the bacteriophage; a bacterial cell
XX comprising the bacteriophage; a non-human animal injected with the
XX antibody composition; a host cell that secretes the antibody; making an
XX antibody; diagnosing a disease, disorder, syndrome, or condition
XX comprising cancer, or proliferative, inflammatory, immune, metabolic,
XX bone, CNS, genetic, bacterial and viral diseases, disorders, syndromes, or
XX conditions in a patient; a modulator composition comprising a modulator
XX and a carrier; gene therapy; prophylactic or therapeutic treatment of a
XX subject; an isolated modified cell comprising at least one first
XX heterologous nucleic acid molecule, where the first heterologous nucleic
XX acid molecule comprises a first polynucleotide sequence that encodes a
XX first polypeptide; a non-human animal deficient in the polypeptide or
XX that over-expresses the polypeptide; isolated tissues derived from the
XX non-human animal; and one or more cells derived from the non-human
XX animal. The nucleic acid is useful in preparing a composition for
XX diagnosing or treating e.g., cancer, psoriasis or ulcerative colitis.

This invention relates to a novel nucleic acid, and encoded polypeptides thereof, which have properties related to the stimulation of biochemical or physiological responses in a cell, tissue, organ or organism. Specifically, it refers to the use of biologically active fragments for diagnostic and prognostic assays and furthermore in the treatment of diverse pathological conditions. The present invention describes novel human and murine NOVX proteins, as well as methods to modulate their expression using antisense oligos, ribozymes and peptide nucleic acids. The NOVX polypeptides, polynucleotides and antibodies are useful in treating or preventing NOVX-associated disorders, e.g. cardiomyopathy, atherosclerosis, cancer and diabetes. Furthermore, they may be used in treating or preventing diseases such as inflammation, autoimmune disorders, allergies, blood disorders, acquired immunodeficiency syndrome (AIDS), obesity, asthma, immunoglobulin (Ig) A nephropathy, cirrhosis, arthritis, Alzheimer's disease, infections, stroke, muscular dystrophy and epilepsy. Accordingly, these molecules have many activities including cytostatic, cardiatic, antiinflammatory, immunosuppressive, antiallergic, haemostatic, anti-HIV, antidiabetic, antiarteriosclerotic, anorectic, anesthetic, nephroprotective, antiarthritic, hepatotropic, neuroprotective, neurotropic, antibacterial, virucide, antiparasitic, relaxant and anticonvulsant. In addition, they are useful in screening assays to identify small molecules that modulate or inhibit, for example, neurogenesis, wound healing and angiogenesis. The nucleic acids are also used as in chromosome mapping, tissue typing, preventive medicine and pharmacogenomics. This polypeptide is a human NOVX protein of the invention.

Sequence 397 AA;

Query Match 100.0%; Score 1508; DB 5; Length 397;
Best Local Similarity 100.0%; Pred. No. 1.7e-148;
Matches 282; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RRFLLSAACRSFPQWPGGGGSOVSSCSDTDVYLLAVKSEGRFAERQAVETWGSQA 60
DB 116 RRFLLSAACRSFPQWPGGGGSOVSSCSDTDVYLLAVKSEGRFAERQAVETWGSQA 175
QY 61 PEIRLLFLGSPVAGPDLDSLVNESRRYSDDLMPDLVDFPNQTKDLLLLMLGRH 120
DB 176 PEIRLLFLGSPVAGPDLDSLVNESRRYSDDLMPDLVDFPNQTKDLLLLMLGRH 235
QY 121 CPTVSFVLRAODDAFVHTPALAHRLPAPASASLYGEVFTQAMPKRGPGFPYVES 180
DB 236 CPTVSFVLRAODDAFVHTPALAHRLPAPASASLYGEVFTQAMPKRGPGFPYVES 295
QY 181 FPEGGYPAVAGGGYVIAAGRLAPWLLRAARVAPPFEDVYTGICIRALGLVPOAHPEFL 240
DB 296 FPEGGYPAVAGGGYVIAAGRLAPWLLRAARVAPPFEDVYTGICIRALGLVPOAHPEFL 355
QY 241 TAMPADRTADHCAFRNLLVRLPGQASIRLMKQLODRLOC 282
DB 356 TAMPADRTADHCAFRNLLVRLPGQASIRLMKQLODRLOC 397

RESULT 5

ADQ75983 ID ADQ75983 standard; protein; 397 AA.

AC ADQ75983;

DT 07-OCT-2004 (first entry)

DE Human glycosyl transferase protein.

KW enzyme; human; cancer; glycosyl transferase.

OS Homo sapiens.

PN WO2004061109-A1.

PD 22-JUL-2004.

XX 26-DEC-2003; 2003WO-JP017030.

XX 27-DEC-2002; 2002JP-00380975.

PA (NAAD-) NAT INST ADVANCED IND SCI & TECHNOLOGY.

PA (FORE) FUJIREBIO INC.

PI Narimatsu H, Kudo T, Togayachi A, Hiruma T;

DR NPI; 2004-534383/51.

DR NPSDB; ADQ75982.

PT Novel glycosyltransferase nucleic acid, useful for detecting colon

PS cancer, stomach cancer and rectal cancer.

XX Claim 16; SEQ ID NO 2; 80pp; Japanese.

CC The present invention provides the protein and coding sequence of a human

CC glycosyltransferase. The coding sequence is useful for testing for

CC cancer, detecting the effectiveness of treatment to cancer, and for

CC diagnosing cancer such as stomach cancer, pancreatic cancer, liver

CC cancer, colon cancer and rectal cancer. The present sequence is the human

CC glycosyl transferase protein of the invention.

Sequence 397 AA;

Query Match 100.0%; Score 1508; DB 8; Length 397;
Best Local Similarity 100.0%; Pred. No. 1.7e-148;
Matches 282; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RRFLLSAACRSFPQWPGGGGSOVSSCSDTDVYLLAVKSEGRFAERQAVETWGSQA 60
DB 116 RRFLLSAACRSFPQWPGGGGSOVSSCSDTDVYLLAVKSEGRFAERQAVETWGSQA 175
QY 61 PEIRLLFLGSPVAGPDLDSLVNESRRYSDDLMPDLVDFPNQTKDLLLLMLGRH 120
DB 176 PEIRLLFLGSPVAGPDLDSLVNESRRYSDDLMPDLVDFPNQTKDLLLLMLGRH 235
QY 121 CPTVSFVLRAODDAFVHTPALAHRLPAPASASLYGEVFTQAMPKRGPGFPYVES 180
DB 236 CPTVSFVLRAODDAFVHTPALAHRLPAPASASLYGEVFTQAMPKRGPGFPYVES 295
QY 181 FPEGGYPAVAGGGYVIAAGRLAPWLLRAARVAPPFEDVYTGICIRALGLVPOAHPEFL 240
DB 296 FPEGGYPAVAGGGYVIAAGRLAPWLLRAARVAPPFEDVYTGICIRALGLVPOAHPEFL 355
QY 241 TAMPADRTADHCAFRNLLVRLPGQASIRLMKQLODRLOC 282
DB 356 TAMPADRTADHCAFRNLLVRLPGQASIRLMKQLODRLOC 397

RESULT 6

ADRI4769 ID ADRI4769 standard; protein; 397 AA.

AC ADRI4769;

DT 04-NOV-2004 (first entry)

DE Amino acid sequence of human MAPCA orthologue #1.

KW adenomatous polyposis coli protein; APC; actin pathway;

OS modifier of APC and actin; MAPCA; cancer; human.

PN WO2004066948-A2.

PD 12-AUG-2004.

PF 28-JAN-2004; 2004WO-US002338.

PR 29-JAN-2003; 2003US-0443484P.

PR 11-FEB-2003; 2003US-0447358P.

PR 10-APR-2003; 2003US-0461789P.
PR 14-MAY-2003; 2003US-0470684P.
PR 19-JUN-2003; 2003US-0479650P.
XX
XX (EXEL-) EXELIXIS INC.
PI Gendreau SB, Morabianco EL, Lickteig K, Zhang H;
DR MPI; 2004-580849/56.
XX N-PSDB; ADR14743.
PT Identifying a candidate adenomatous polyposis coli protein (APC) and axin
PT pathways modulating agent for treating cancer by contacting an assay
PT system comprising a modifier of APC and axin polypeptide or nucleic acid
PT with a test agent.
XX
XX Example 1; SEQ ID NO 27; 199pp; English.
XX
XX The specification describes a method for identifying a candidate
CC adenomatous polyposis coli protein (APC) and axin pathways modulating
CC agents. The method comprises providing an assay system comprising a
CC modifier of APC and axin (MAPCAX) polypeptide or nucleic acid, contacting
CC the assay system with a test agent under conditions where, except for the
CC presence of the test agent, the system provides a reference activity, and
CC detecting a test agent-biased activity of the assay system, where a
CC difference between the test agent-biased activity and the reference
CC activity identifies the test agent as a candidate APC and axin pathways
CC modulating agent. The method is useful in identifying a candidate
CC adenomatous polyposis coli protein (APC) and a pathways modulating agent,
CC which are useful for preparing a composition for diagnosing or treating
CC cancer. The present sequence represents a human orthologue of a
CC Caenorhabditis elegans MAPCAX polypeptide. The sequence was identified
CC using BLAST analysis.
XX
XX Sequence 397 AA:
SQ
Query Match 100.0%; Score 1508; DB 8; Length 397;
Best Local Similarity 100.0%; Pred. No. 1.7e-148;
Matches 282; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 RRFLLSAACRSPFQWPGGSGSVSSCSTDVYLLAVKSEGRRAERQAVETWGSRA 60
DB 116 RRFLLSAACRSPFQWPGGSGSVSSCSTDVYLLAVKSEGRRAERQAVETWGSRA 175
QY 61 PGRILLFLGSPVGEAGPDLDSLVAMESRRYSDDLMDPFDVEFNQTLKDLLLAWLGRH 120
DB 176 PGRILLFLGSPVGEAGPDLDSLVAMESRRYSDDLMDPFDVEFNQTLKDLLLAWLGRH 235
QY 121 CPTVSFVLRAODDAFVHTPALALHLRALPPASARSILYIGEVFTQAMPKRPGGPFYVPS 180
DB 236 CPTVSFVLRAODDAFVHTPALALHLRALPPASARSILYIGEVFTQAMPKRPGGPFYVPS 295
QY 181 FREGGPAVASGGGYIYAGRLAPWMLRAARVAPFPEDVYTCIRALGLVQANPGFL 240
DB 296 FREGGPAVASGGGYIYAGRLAPWMLRAARVAPFPEDVYTCIRALGLVQANPGFL 355
QY 241 TAMPADRTADHCAFRLLLVRLPGQASTRLMKQLDDPRLOC 282
DB 356 TAMPADRTADHCAFRLLLVRLPGQASTRLMKQLDDPRLOC 397

KW metabolic disorder; bone disorder; CNS disorder; cancer; psoriasis;
KW ulcerative colitis; human.
OS Homo sapiens.
XX
XX WO2004093804-A2.
XX
XX 04-NOV-2004.
PD
PF 19-APR-2004; 2004WO-US012047.
XX
XX 18-APR-2003; 2003US-0463708P.
PR 18-APR-2003; 2003US-0463732P.
PR 02-MAY-2003; 2003US-0467199P.
PR 02-MAY-2003; 2003US-0467230P.
PR 19-MAY-2003; 2003US-0471306P.
PR 19-MAY-2003; 2003US-0471336P.
PR 08-JUL-2003; 2003US-0485223P.
PR 08-JUL-2003; 2003US-0485224P.
PR 14-JUL-2003; 2003US-0486446P.
PR 14-JUL-2003; 2003US-0486480P.
PR 08-AUG-2003; 2003US-0493573P.
PR 08-AUG-2003; 2003US-0493577P.
PR 08-SEP-2003; 2003US-0505059P.
XX
XX (FIVE-) FIVE PRIME THERAPEUTICS INC.
XX
XX Lee E, Heetir K, Chu K, Masuoka L, Williams LT;
PI MPI; 2004-775861/76.
XX N-PSDB; ADU01617.
DR
XX
XX New first nucleic acid molecule comprising a polynucleotide sequence
PT given in the specification, useful in preparing a composition for
PT diagnosing or treating e.g., cancer, psoriasis or ulcerative colitis.
XX
XX Claim 14; SEQ ID NO 816; 291pp; English.
XX
XX The invention describes a new first nucleic acid molecule comprising a
CC polynucleotide sequence given in the specification. Also described are:
CC an animal injected with the nucleic acid molecule; a second nucleic acid
CC molecule comprising a second polynucleotide sequence that is at least
CC about 70, 80, 90 or 95% homologous to the first nucleic acid molecule or
CC that hybridizes to the first polynucleotide sequence under high
CC stringency conditions; a vector comprising the nucleic acid molecule and
CC a promoter that drives the expression of the nucleic acid molecule; a
CC host cell transfected, transfected, or infected with the
CC nucleic acid molecule; a nucleic acid composition comprising a carrier or
CC a buffer and one or more compositions comprising the nucleic acid
CC molecule, vector or host cell; a substantially purified polypeptide; an
CC animal injected with the polypeptide; a polypeptide composition
CC comprising the polypeptide molecule and a carrier or buffer; a cell
CC culture medium comprising the polypeptide or transfected cells
CC transfected with the polynucleotide; making a transfected, transfected,
CC transduced, or infected host cell; synthesizing Nanodiscs simultaneously
CC and for synthesizing a series of simultaneously-synthesised Nanodiscs
CC sequentially utilising a dynamic system; preparing a hydrophobic protein
CC for determination of crystal structure; immunising a non-human animal;
CC screening for modulators of hydrophobic protein activity; a diagnostic
CC kit; determining the presence of the nucleic acid molecule or its
CC complement; determining the presence of an antibody to the polypeptide in
CC a sample; an antibody specifically recognising, binding to or modulating
CC the biological activity of at least one polypeptide encoded by a nucleic
CC acid molecule or its biologically active fragment; an antibody
CC composition comprising the antibody and a carrier; a bacteriophage, where
CC the antibody is displayed on the bacteriophage; a bacterial cell
CC comprising the bacteriophage; a non-human animal injected with the
CC antibody composition; a host cell that secretes the antibody; making an
CC antibody; diagnosing a disease, disorder, syndrome, or condition
CC comprising cancer, or proliferative, inflammatory, immune, metabolic,
CC bone, CNS, genetic, bacterial and viral diseases, disorders, syndromes or
CC conditions in a patient; a modulator composition comprising a modulator
CC and a carrier; gene therapy; prophylactic or therapeutic treatment of a

for 101539.8303

QY 1 RRFLLSAACRSFPQMLPGGGGSGVSSCSPTDVPYLLAVKSEPRGRFAEROAVRETWSPA 60
 Db 1 RRFLLSAACRSFPQMLPGGGGSGVSSCSPTDVPYLLAVKSEPRGRFAEROAVRETWSPA 60
 QY 61 PGRLLFLFGSPVGEAGPDLDSLAVMESRRYSDDLMDPLDVPFNQTLKDLLLAWLGRH 120
 Db 61 PGRLLFLFGSPVGEAGPDLDSLAVMESRRYSDDLMDPLDVPFNQTLKDLLLAWLGRH 120
 QY 121 CPTVSVLRADDAFVHTPALAHRALPPASASLYGEVFTQAMPKRGKGPYPVES 180
 Db 121 CPTVSVLRADDAFVHTPALAHRALPPASASLYGEVFTQAMPKRGKGPYPVES 180
 QY 181 PFEFGYPVAVSGGCVIAGRLAPWLLRAAARVAFPEFDVYTGICIRALGLVPOAHPEFL 240
 Db 181 PFEFGYPVAVSGGCVIAGRLAPWLLRAAARVAFPEFDVYTGICIRALGLVPOAHPEFL 240
 QY 241 TAMPADRTADHCAFRNLLVRLPGLPOASIRLMKQLODRPLOC 282
 Db 241 TAMPADRTADHCAFRNLLVRLPGLPOASIRLMKQLODRPLOC 282

RESULT 2

ABU11621 standard; protein; 298 AA.

ABU11621;
 12-FEB-2003 (first entry)

Human MDT polypeptide SEQ ID 568.

MDT; human; disease detection and treatment molecule polypeptide;
 anti-inflammatory; immunosuppressive; osteoprotic; cytostatic; anti-HIV;
 haemostatic; nephrotropic; antianemic; hepatotropic; hepatocytic;
 cancer; adenocarcinoma; leukemia; lymphoma; melanoma; myeloma; sarcoma;
 anaemia; Crohn's disease; acquired immunodeficiency syndrome; AIDS;
 psoriasis; hepatitis.

Homo sapiens.

MO200279449-A2.

10-OCT-2002.

27-MAR-2002; 2002W0-US009944.

28-MAR-2001; 2001US-0279619P.

29-MAR-2001; 2001US-0280067P.

29-MAR-2001; 2001US-0280068P.

16-MAY-2001; 2001US-0291280P.

17-MAY-2001; 2001US-0291829P.

17-MAY-2001; 2001US-0291849P.

19-JUN-2001; 2001US-0299428P.

20-JUN-2001; 2001US-0299776P.

20-JUN-2001; 2001US-0300001P.

(INCYTE GENOMICS INC.

Daffo A, Jones AL, Tran AB, Dahl CR, Gietzen D, Chinn J;

Dufour GE, Hillman JL, Yu JY, Tusaon O, Yap PE, Ameshey SR;

Daugherty SC, Dam TC, Liu TF, Nguyen DA, Kleefeld Y, Gerslin EH;

Peralta CH, David MH, Lewis SA, Chen AJ, Panzer SR, Harris B;

Flores V, Marwaha R, Lo A, Ian RV, Urashka ME;

WPI; 2003-058431/05.

New purified disease detection and treatment molecule proteins and
 PT polynucleotides, useful for diagnosing, treating or preventing cancers
 (e.g. leukemia or sarcoma), anemia, Crohn's disease, AIDS, osteoporosis

PT or hepatitis.
 Claim 27; SEQ ID NO 568; 339p + Sequence Listing; English.
 This invention describes a novel disease detection and treatment molecule
 polypeptide (MDT) which has anti-inflammatory, immunosuppressive,
 osteoprotic, cytostatic, anti-HIV, haemostatic, nephrotropic,
 antianemic, hepatotropic and hepatocytic activity. The polynucleotides
 and the polypeptides of the invention can be used for gene therapy,
 protein replacement therapy and are useful for treating a variety of
 diseases or conditions. These polypeptides or polynucleotides are
 particularly useful for diagnosing, treating or preventing cell
 proliferative disorders (e.g. cancers including adenocarcinoma,
 leukemia, lymphoma, melanoma, myeloma or sarcoma), anaemia, Crohn's
 disease, acquired immunodeficiency syndrome (AIDS), Goodpasture's
 syndrome, inflammation, osteoporosis, thrombocytopenia, psoriasis or
 hepatitis. ABU11450-ABU11845 represent the MDT polynucleotides encoded
 by ABU11450-ABU11845, described in the disclosure of the invention. NOTE:
 The sequence data for this patent did not form part of the printed
 ftp.wipo.int/pub/published_pct_sequences

Sequence 298 AA;

Query Match 100.0%; Score 1508; DB 6; Length 298;
 Best Local Similarity 100.0%; Pred. No. 1.1e-148;
 Matches 282; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 RRFLLSAACRSFPQMLPGGGGSGVSSCSPTDVPYLLAVKSEPRGRFAEROAVRETWSPA 60
 Db 1 RRFLLSAACRSFPQMLPGGGGSGVSSCSPTDVPYLLAVKSEPRGRFAEROAVRETWSPA 76
 QY 61 PGRLLFLFGSPVGEAGPDLDSLAVMESRRYSDDLMDPLDVPFNQTLKDLLLAWLGRH 120
 Db 61 PGRLLFLFGSPVGEAGPDLDSLAVMESRRYSDDLMDPLDVPFNQTLKDLLLAWLGRH 136
 QY 121 CPTVSVLRADDAFVHTPALAHRALPPASASLYGEVFTQAMPKRGKGPYPVES 180
 Db 121 CPTVSVLRADDAFVHTPALAHRALPPASASLYGEVFTQAMPKRGKGPYPVES 196
 QY 181 PFEFGYPVAVSGGCVIAGRLAPWLLRAAARVAFPEFDVYTGICIRALGLVPOAHPEFL 240
 Db 181 PFEFGYPVAVSGGCVIAGRLAPWLLRAAARVAFPEFDVYTGICIRALGLVPOAHPEFL 256
 QY 241 TAMPADRTADHCAFRNLLVRLPGLPOASIRLMKQLODRPLOC 282
 Db 241 TAMPADRTADHCAFRNLLVRLPGLPOASIRLMKQLODRPLOC 298

RESULT 3

AD075997 standard; protein; 372 AA.

AD075997;

07-OCT-2004 (first entry)

Human glycosyl transferase protein fragment #1.

enzyme; human; cancer; glycosyl transferase.

Homo sapiens.

WO2004061109-A1.

22-JUL-2004.

26-DEC-2003; 2003W0-JP047030.

27-DEC-2002; 2002JP-00380973.

(NAAD-) NAT INST ADVANCED IND SCI & TECHNOLOGY.
 (FJRE) FUJIREBIO INC.